

REMARKS / DISCUSSION OF ISSUES

Claims 1-42 are pending in the application.

The Examiner rejects claims 1-10, 16-27, 33, and 39-41 under 35 U.S.C. 103(a) over Apostolides et al. (USP 6,829,226 hereinafter Apostolides) in view of Das et al. (USPA 2003/0087605, hereinafter Das) and Kono (USPA 2001/0004374). The applicants respectfully traverse this rejection.

The combination of Apostolides, Das, and Kono fails to teach or suggest generating a power control signal for enabling a base station to adjust its transmit power level in accordance with a power control loop process, and generating reports from measurements of a characteristic of a signal received from the base station, controlling a time of transmission of the reports such that first of the reports are transmitted at a predetermined sequence of times and, in response to an interruption in the power control loop process controlling a time of transmission of one or more second of the reports at times that are not coincident with the predetermined times, as claimed in each of independent claims 1, 18, and 39, upon which claims 2-17, 19-33, and 40-42 depend, respectively.

The applicants specifically claim two processes: a power control loop process and a characteristic report generation process, configured such that an interruption of the power control loop process affects the timing of the characteristic report generation process.

None of the cited references include two processes, and thus the combination cannot be said to teach that one process affects the timing of the other process. Apostolides and Kono disclose a power control process; Das discloses a report generation process. Because none of these references disclose both claimed elements, there is no teaching in the cited prior art that there is any interaction between these two different elements.

The Examiner asserts that Apostolides teaches a power control process and a characteristic report generation process. This assertion is incorrect. The Examiner cites column 6, lines 48-61 for teaching these two processes, yet at the cited text, Apostolides merely teaches a power control process:

"The base station also receives reports from the mobile terminal of the quality of the signal received by the mobile terminal from the base station. If the quality is too low, the base station will increase the power it transmits to that mobile terminal for the whole of the next SACCH period. Then, in recognition that the mobile terminal's open loop power control system will reduce the mobile terminal's transmit power when it detects an increase in signal level from the base station, the base station must adjust the power control constant it transmits to the mobile station by the same amount in order to avoid unwanted interaction between the downlink power (base transmit power) control loop and the uplink power (mobile transmit power) control loop." (Apostolides, column 6, lines 48-61).

As is clearly evident, Apostolides teaches that the mobile station sends a report of the quality of the base station's signal, and this report is used by the base station to adjust its power level.

The Examiner cites this single report as corresponding to both the claimed power control signal, and the claimed characteristic report. This is contrary to well established claim construction standards. If two separate elements are included in a claim, a single prior art element cannot be said to correspond to each of these separate elements. If Apostolides' report is said to correspond to the claimed power control signal, it cannot also be said to correspond to the claimed characteristic report; similarly, if Apostolides' report is said to correspond to the claimed characteristic report, it cannot also be said to correspond to the claimed power control signal.

In like manner, the Examiner erroneously asserts that Kono teaches that in response to an interruption in a power control loop process, a time of transmission of the characteristic reports is changed. Kono does not teach or suggest characteristic reports that are different from the power control signal. The Examiner notes that after "recovering from the abnormal condition, the base station requests reception condition report from the mobile station a second time". This is correct, but the noted "reception condition report" in Kono is the power control signal; it is not a different

report that is being controlled by an interruption in the power control loop process. As noted above, if Kono's reception condition report is said to correspond to the claimed power control signal in the interrupted power control loop process, it cannot also be said to correspond to the claimed characteristic report; similarly, if Kono's reception condition report is said to correspond to the claimed characteristic report, it cannot also be said to correspond to the claimed power control signal in the interrupted power control loop process.

Because the Examiner has failed to identify where the prior art teaches or suggests adjusting the timing of characteristic reports based on an interruption of a power control loop process that is controlled by a power control signal, the applicants respectfully maintain that the rejection of claims 1-10, 16-27, 33, and 39-41 under 35 U.S.C. 103(a) over Apostolides in view of Das and Kono is unfounded, and should be withdrawn.

With further regard to independent claim 39, upon which claims 40-42 depend, the Examiner asserts that Das teaches controlling the time of transmission of the reports such that the reports are transmitted at a first rate and, in response to an interruption in the power control loop process, the reports are transmitted at a second rate that is higher than the first rate. This assertion is incorrect, and contrary to the principles taught by Das.

The applicants specifically teach and claim that the mobile station **increases** the rate at which reports are sent when an interruption occurs, whereas Das teaches that when an interruption occurs, the mobile station **decreases** the rate at which the reports are sent:

"channel quality feedback is provided from the mobile station to the base station at a variable rate such that the feedback rate is faster when the base station is transmitting to the mobile station and **slower when there is no transmission occurring**" (Das [0008] lines 8-12, emphasis added).

Because the Examiner has failed to identify where the prior art teaches or suggests controlling the time of transmission of the reports such that the reports are transmitted at a first rate and, in response to an interruption in the power control loop process, the reports are transmitted at a second rate that is higher than the first rate, and because Das specifically teaches the opposite, the applicants respectfully maintain that the rejection of claims 39-41 under 35 U.S.C. 103(a) over Apostolides in view of Das and Kono is unfounded, and should be withdrawn.

With regard to dependent claims 2 and 19 the Examiner asserts that Apostolides teaches that the power control signal comprises power control commands. This assertion is incorrect.

As is well known in the art, 'commands' differ from 'data'; a command is a directive that is followed by the recipient of the command. In the case of a power control command, the recipient adjusts its power as directed in the command.

Apostolides teaches a conventional 'open loop' power control process, wherein the mobile station transmits data regarding the received signal characteristics. Upon receipt of this data, the base station decides, autonomously, whether to maintain, increase, or decrease its power level:

"The base station also receives reports from the mobile terminal of the quality of the signal received by the mobile terminal from the base station. If the quality is too low, the base station will increase the power it transmits to that mobile terminal for the whole of the next SACCH period." (Apostolides, column 6, lines 48-52.)

As is clearly evident, in Apostolides, the mobile station does not 'command' the base station; it merely informs the base station of the received signal characteristics.

Because the Examiner has failed to identify where the prior art teaches or suggests that the power control signal comprises power control commands, the applicants respectfully maintain that the rejection of claims 2 and 19 under 35 U.S.C. 103(a) over Apostolides in view of Das and Kono is unfounded, and should be withdrawn.

With regard to claims 3, 20, and 40, the Examiner asserts that Das discloses generating at least one of the second reports from a measurement of shorter duration than a measurement duration used to generate the first reports. This assertion is incorrect.

Das discloses adjusting the rate at which the reports are transmitted; Das does not address the duration of measurements used to generate these reports. At the text cited by the Examiner, Das discloses:

"When the mobile station is receiving a transmission over the forward link (e.g., downlink from the base station), the channel quality feedback is sent every slot as shown by communications 356-359. As such, the rate at which channel quality feedback is provided when there is a transmission from the base station is faster than the rate at which channel quality feedback is provided when there is no transmission from the base station." (Das [0014] lines 11-18.)

As is clearly evident, in the cited text, Das addresses the rate at which the reports are sent, and does not teach or suggest that the duration of the measurements used to generate the first reports differ from the duration of the measurements used to generate the second reports, as asserted by the Examiner.

Because the Examiner has failed to identify where the prior art teaches or suggests generating at least one of the second reports from a measurement of shorter duration than a measurement duration used to generate the first reports, the applicants respectfully maintain that the rejection of claims 3, 20, and 40 under 35 U.S.C. 103(a) over Apostolides in view of Das and Kono is unfounded, and should be withdrawn.

With regard to dependent claims 4 and 21, the Examiner asserts that Das discloses generating an earliest report transmitted after an end of the interruption from a measurement commenced before the end of the interruption at [0018] lines 1-4. This assertion is incorrect.

At the cited text, Das addresses a rate at which the reports are transmitted:

"When transmission from the base station ends and there is no further transmission, the mobile station resumes its reporting of channel quality information at the slower rate (e.g., every two (2) slots) as shown by communication 361." (Das [0018] lines 1-4.)

As is clearly evident, at the cited text, Das does not address when any measurement commences, and specifically does not teach generating a report from a measurement commenced before the end of the interruption, as asserted by the Examiner.

Because the Examiner has failed to identify where the prior art teaches or suggests generating an earliest report transmitted after an end of the interruption from a measurement commenced before the end of the interruption, the applicants respectfully maintain that the rejection of claims 4 and 21 under 35 U.S.C. 103(a) over Apostolides in view of Das and Kono is unfounded, and should be withdrawn.

With regard to dependent claims 5, 22, and 41, the Examiner asserts that Das discloses selecting, in response to an indication of a length of the interruption, a start time of the period for which the second reports are transmitted at [0019] lines 1-5. This assertion is incorrect.

In like manner, and citing the same text, with regard to claims 6, 23, and 41, the Examiner asserts that Das discloses selecting a duration of the period for which the second reports are generated in response to an indication of a length of the interruption, and with regard to claims 7, 24, and 41, the Examiner asserts that Das discloses selecting a number of second reports in response to an indication of a length of the interruption.

At the cited text, Das discloses:

"It should be noted that the feedback rate for transmitting the channel quality information and the point in time when the information is reported (e.g., at the leading edge, during, or at the trail edge of the time slot) are all matters of design choice." (Das [0019] lines 1-5.)

Although Das discloses that the selection of a start time is a design choice, nowhere in this cited text does Das address the length of the interruption; and specifically nowhere in the cited text does Das teach or suggest that the start time, or the

duration, or the number of second reports, is selected in response to an indication of the length of the interruption, as asserted by the Examiner.

Because the Examiner has failed to identify where the prior art teaches or suggests selecting, in response to an indication of a length of the interruption, a start time of the period for which the second reports are transmitted, a duration of the period for which the second reports are generated, or a number of second reports, the applicants respectfully maintain that the rejection of claims 5-7, 22-24, and 41 under 35 U.S.C. 103(a) over Apostolides in view of Das and Kono is unfounded, and should be withdrawn.

With regard to dependent claims 8 and 25, the Examiner asserts that Das discloses a duration of the period for which the second reports are transmitted is predetermined at [0020] lines 4-7; with regard to claims 9 and 26, the Examiner asserts that Das discloses that the number of second reports transmitted is predetermined at [0020] lines 4-7; and with regard to claims 10 and 27, the Examiner asserts that Das discloses that the period of second reports terminates when a next predetermined time occurs at [0020] lines 16-19. These assertions are incorrect.

As claimed, the second reports are the reports that are sent in response to an interruption. At the cited text, Das teaches sending reports at a faster rate in response to the end of the interruption:

"For example, upon **detection of a transmission** from the base station, the mobile station can report channel quality information at a second rate for a prescribed duration after the detection of the transmission" (Das [0020] lines 4-7).

"At the end of that prescribed period of time and assuming there is an absence of a transmission, the mobile station would then resume reporting of rate feedback at the first rate of 100 milliseconds (e.g., the slower rate)" (Das [0020] lines 16-19).

As is clearly evident, at the cited text Das discloses sending the non-interruption (first) reports for a prescribed duration after the interruption ends; Das does not address a duration for sending the interruption (second) reports, or a number of interruption (second) reports in response to an interruption, or a termination of second reports after a predetermined time, as asserted by the Examiner.

Because the Examiner has failed to identify where the prior art teaches or suggests a predetermined duration of the period for which the second reports are transmitted, or a predetermined number of second reports, or termination of second reports after a predetermined time, the applicants respectfully maintain that the rejection of claims 8-10 and 25-27 under 35 U.S.C. 103(a) over Apostolides in view of Das and Kono is unfounded, and should be withdrawn.

With regard to claims 16 and 33, the Examiner asserts that Das teaches that after one or more second reports have been transmitted, a time shift is applied to the predetermined sequence of times for the transmission of subsequent first reports at [0020] lines 4-7 and 16-19. This assertion is incorrect.

At the cited text (quoted above with regard to claims 8-10 and 25-27), Das addresses adjusting the rate at which the first and second reports are transmitted, and does not address applying a time shift to subsequent first reports after transmitting one or more of the second reports, as asserted by the Examiner.

Because the Examiner has failed to identify where the prior art teaches or suggests that after one or more second reports have been transmitted, a time shift is applied to the predetermined sequence of times for the transmission of subsequent first reports, the applicants respectfully maintain that the rejection of claims 16 and 33 under 35 U.S.C. 103(a) over Apostolides in view of Das and Kono is unfounded, and should be withdrawn.

The Examiner rejects claims 11-14, 28-31, and 42¹ under 35 U.S.C. 103(a) over Apostolides in view of Das, Kono, and Baker et al. (USPA 2002/0016179, hereinafter Baker). The applicants respectfully traverse this rejection.

Each of these rejected claims is dependent upon independent claim 1, 18, or 39, and in this rejection, the Examiner relies on the combination of Apostolides, Das, and Kono for teaching the elements of claims 1, 18, and 39. As noted above, the combination of Apostolides, Das, and Kono fails to teach the elements of claims 1, 18, and 39, and Baker does not cure this deficiency. Accordingly, the applicants respectfully maintain that the rejection of claims 11-14, 28-31, and 42 under 35 U.S.C. 103(a) over Apostolides in view of Das, Kono, and Baker that relies on the combination of Apostolides, Das, and Kono for teaching the elements of claims 1, 18, and 39 is unfounded, and should be withdrawn.

Further, the Examiner asserts that Baker discloses terminating a period of sending second reports based on an indication of convergence of the power control loop. This assertion is incorrect. Baker does not teach or suggest sending second reports, and thus cannot be said to teach terminating a (non-existent) period of sending such reports based on an indication of convergence, as asserted by the Examiner.

Because the Examiner has failed to identify where the prior art teaches or suggests terminating a period of sending second reports based on an indication of convergence of the power control loop, as claimed in each of claims 11, 28, and 42, upon which claims 12-14 and 29-31 depend, the applicants respectfully maintain that the rejection of claims 11-14, 28-31, and 42 under 35 U.S.C. 103(a) over Apostolides in view of Das, Kono, and Baker is unfounded, and should be withdrawn.

¹ The Office action states claim 41; the applicants assume that this is a typographical error, because the Examiner's subsequent comments address claim 42.

The Examiner rejects claims 15 and 32 under 35 U.S.C. 103(a) over Apostolides in view of Das, Kono, and Cudak et al. (USPA 2005/0289256, hereinafter Cudak). The applicants respectfully traverse this rejection.

Each of these rejected claims is dependent upon independent claims 1 or 18, and in this rejection, the Examiner relies on the combination of Apostolides, Das, and Kono for teaching the elements of claims 1 and 18. As noted above, the combination of Apostolides, Das, and Kono fails to teach the elements of claims 1 and 18, and Cudak does not cure this deficiency. Accordingly, the applicants respectfully maintain that the rejection of claims 15 and 32 under 35 U.S.C. 103(a) over Apostolides in view of Das, Kono, and Cudak that relies on the combination of Apostolides, Das, and Kono for teaching the elements of claims 1 and 18 is unfounded, and should be withdrawn.

Further, the Examiner asserts that Cudak discloses suspending the generation of first reports during an interruption of the power control loop at [0053] lines 1-5. This assertion is incorrect. At the cited text, Cudak discloses:

"It is possible to combine the first and third embodiments such that the TIMEOUT field is used in conjunction with the PERSISTENCE field to provide alternative criteria for the remote station to stop the transmission of channel quality reports" (Cudak [0053] lines 1-5).

As is clearly evident, at the cited text Cudak does not address an interruption of a power control loop, and thus Cudak cannot be said to disclose suspending the generation of reports during an interruption of such a (non-existent) power control loop.

Because the Examiner has failed to identify where the prior art teaches or suggests suspending the generation of first reports during an interruption of the power control loop, the applicants respectfully maintain that the rejection of claims 15 and 32 under 35 U.S.C. 103(a) over Apostolides in view of Das, Kono, and Cudak is unfounded, and should be withdrawn.

The Examiner rejects claims 34-36 and 38 under 35 U.S.C. 103(a) over Apostolides, Das, and Cheng et al. (USPA 2004/0246917, hereinafter Cheng). The applicants respectfully disagree with this assertion.

The Examiner states: "Consider claim 34, this claim discusses similar subject matter as claim 1. Therefore, it has been analyzed and rejected based upon the rejection of claim 1". As noted above, the rejection of claim 1 is unfounded; accordingly, because the Examiner relies on the rejection of claim 1 to support the rejection of claim 34, the applicants respectfully maintain that the rejection of claims 34-36 and 38 is also unfounded, and should be withdrawn.

Further, although there may be some similarity between claim 1 and claim 34, the applicants note that claim 1 addresses the features of the claimed mobile station, whereas claims 34-38 address the features of the claimed base station.

The applicants respectfully note that it is the duty of the Examiner to specifically identify each and every element and limitation of a claim in the cited reference as per 37 CFR 1.104(c)(2) and MPEP 707, which explicitly state that "the particular part relied on must be designated" and "the pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified."

The Final Office Action is not in compliance with 37 C.F.R. §1.104(c)(2) and MPEP 707 because the pertinence of Apostolides, Das, and Cheng with respect to each of the elements of claims 34-38 is not clearly explained. The goal of prosecution has not been met under MPEP 706 because the Office has not clearly articulated its rejection so that the applicants could have the opportunity to provide evidence of patentability and otherwise reply completely at the earliest opportunity.

Because the Examiner has failed to identify where the prior art teaches each of the features of the claimed base station, the applicants respectfully maintain that the rejection of claims 34-36 and 38 under 35 U.S.C. 103(a) over Apostolides, Das, and Cheng is unfounded, and should be withdrawn.

If the rejection of claims 34-36 and 38 is maintained, the applicants respectfully request withdrawal of the finality of this rejection, and the issuance of a non-final Office action that is in compliance with 37 C.F.R. §1.104(c)(2) and MPEP 707, so that the applicants could have the opportunity to provide evidence of patentability and otherwise reply completely at the earliest opportunity.

Further, the Examiner asserts that Cheng teaches a base station that schedules an interruption in the power control loop process or the reports received from the mobile station. This assertion is incorrect.

Cheng teaches sending reports from the mobile station to either of two cells (base stations) during a handover process. While the new cell is being prepared to communicate with the mobile station (the cell switching delay (CSD)), the mobile station sends the reports to the old cell. After this delay period, the mobile station sends the reports to the new cell. These actions are initiated by the mobile station (MS), not by the base stations (cells):

"The CSD time duration is between when ***the MS generates an indication for cell switching*** from target cell a to serving cell b is to occur and the time when the forward link packet data transmission is ready or occurs from the target cell (for example, cell b)" (Cheng [0033] lines 7-12, emphasis added).

Because the Examiner has failed to identify where the prior art teaches or suggests a base station that schedules an interruption in the power control loop process or the reports received from the mobile station, and Cheng specifically teaches that the mobile station controls the interruption, the applicants respectfully maintain that the rejection of claims 34-36 and 38 under 35 U.S.C. 103(a) over Apostolides, Das, and Cheng is unfounded, and should be withdrawn.

The Examiner rejects claim 37 under 35 U.S.C. 103(a) over Apostolides, Das, Cheng, and Baker. The applicants respectfully traverse this rejection.

Claim 37 is dependent upon independent claim 34, and in this rejection, the Examiner relies on the combination of Apostolides, Das, and Cheng for teaching the elements of claim 34. As noted above, the combination of Apostolides, Das, and Cheng fails to teach the elements of claim 34, and Baker does not cure this deficiency. Accordingly, the applicants respectfully maintain that the rejection of claim 34 under 35 U.S.C. 103(a) over Apostolides in view of Das, Cheng, and Baker that relies on the combination of Apostolides, Das, and Cheng for teaching the elements of claim 34 is unfounded, and should be withdrawn.

Further, the Examiner asserts that Baker discloses determining an end time of the period of sending second reports in response to an indication of convergence of the power control loop process. This assertion is incorrect. Baker does not teach or suggest sending second reports, and thus cannot be said to teach determining an end time for a (non-existent) period of sending such reports based on an indication of convergence, as asserted by the Examiner.

Because the Examiner has failed to identify where the prior art teaches or suggests determining an end time of the period of sending second reports in response to an indication of convergence of the power control loop process, the applicants respectfully maintain that the rejection of claim 37 under 35 U.S.C. 103(a) over Apostolides in view of Das, Cheng, and Baker is unfounded, and should be withdrawn.

In view of the foregoing, the applicants respectfully request that the Examiner withdraw the objection(s) and/or rejection(s) of record, allow all the pending claims, and find the application to be in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

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